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The Thirteenth International Conference on Endothelin (ET-13), Tokyo, 2013

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ABSTRACT

The Thirteenth International Conference on Endothelin (ET-13) was held from September 8–11, 2013 in Tokyo, Japan chaired by Noriaki Emoto, Kobe Pharmaceutical University, Japan, and Takashi Miyauchi, University of Tsukuba, Japan and held on the Tokyo Campus of Tsukuba University. The International Conferences on Endothelin were launched in December of 1988 shortly after the discovery of endothelin and organized by Sir John Vane, laureate of the Nobel Prize in Physiology or Medicine 1982, as the Conference Chair at The William Harvey Research Institute, London. Since then, the conference has been held every two years alternating between North America, Europe and Asia. In 2013, the conference was again held in Asia and also marked the 25th anniversary of the discovery of endothelin at University of Tsukuba. The 25th anniversary of the discovery of endothelin was celebrated by almost 300 attendees from 25 different countries, the largest number of delegates in the recent history of the conference. Conference delegates who traveled to Japan were from Argentina, Australia, Austria, Brazil, Canada, China, Czech Republic, Denmark, France, Germany, Greece, Hong Kong, Hungary, Indonesia, Italy, Japan, Korean Republic, Netherlands, Sweden, Switzerland, Taiwan, Turkey, United Kingdom, United States, and from Vietnam. In this article we summarize the conference highlights, its speakers, and some of the festivities related to the celebration of the 25th anniversary of the discovery of endothelin.

The International Conferences on Endothelin were launched in December of 1988 shortly after the discovery of endothelin (Yanagisawa et al., 1988) and organized by Sir John Vane, Ph.D. F.R.S., laureate of the Nobel Prize in Physiology or Medicine 1982 (Raju, 1999), as the Conference Chair at The William Harvey Research Institute, London (Vane et al., 1989). Since then, the conference has been held every two years alternating between North America, Europe and Asia (Emoto et al., 2014b-in this issue). In 2013, the conference was again held in Asia and also marked the 25th anniversary of the discovery of endothelin at University of Tsukuba.

The Thirteenth International Conference on Endothelin (ET-13) was held from September 8–11, 2013 in Tokyo, Japan (Fig. 1) chaired by Noriaki Emoto, M.D. Ph.D. (Kobe Pharmaceutical University, Japan) and Takashi Miyauchi, M.D. Ph.D. (University of Tsukuba, Japan) on the Tokyo Campus of Tsukuba University (Fig. 2). The 25-year anniversary of the discovery of endothelin was celebrated by almost 300 attendees from 25 different countries, the largest number of delegates in the recent years of the conference (Fig. 3). The countries from which scientists and physicians came to Japan included Argentina, Australia, Austria, Brazil, Canada, China, Czech Republic, Denmark, France, Germany, Greece, Hong Kong, Hungary, Indonesia, Italy, Japan, Korean Republic, Netherlands, Sweden, Switzerland, Taiwan, Turkey, United Kingdom, United States, and Vietnam. At ET-13, a number of invited and keynote lectures were given by a panel of international experts from basic, clinical and translational science. These experts included Jennifer S. Pollock, Ph.D. (Augusta) (Fig. 4), Matthias Barton M.D. (Zurich), Francesca Spinella Ph.D. (Rome), Pierre-Louis Tharaux, M.D. Ph.D. (Paris), Hiroshi Watanabe, M.D. Ph.D. (Hamamatsu), Toyoaki Murohara M.D. Ph.D. (Nagoya), David J. Webb, M.D. (Edinburgh), Kenji Sunagawa, M.D. Ph.D. (Hakata), Anil Gulati, M.D. Ph.D. (Chicago), Yasushi Kawaguchi, M.D. PhD. (Tokyo), Michelle L. Gumz, Ph.D. (Gainesville), Hiroki Kurihara M.D. Ph.D. (Tokyo), David Langleben, M.D. (Montréal), Hiromi Matsubara M.D. Ph.D. (Okayama), Masaru Hatano M.D. Ph.D. (Tokyo), Yoshihide Asano, M.D. Ph.D. (Tokyo), Ronald Oudiz, M.D. (Torrance), Ivana Vaněčková, Ph.D. (Prague), Donald E. Kohan, M.D. Ph.D. (Salt Lake City), Jo De Mey, M.D. (Odense), Theofilos M. Kolettis, M.D. (Ioannina), Berthold Hocher, M.D. (Potsdam), Ariela

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Fig. 1. A view from the Tokyo Dome Hotel on the city of Tokyo (current population: 31.7 million) where the Thirteenth International Conference on Endothelin was held in September 2013. On the right the Tokyo Skytree (634 m/2080 ft) can be seen, the second-highest free standing structure in the world over 350 m (1148 ft).

Benigni, Ph.D. (Bergamo), Masafumi Kitakaze M.D. Ph.D. (Osaka), and Carmine Cardillo, M.D. (Rome). New data on clinical studies with endothelin receptor antagonists was presented by representatives of the pharmaceutical industry, including Dennis L. Andress, M.D. (Chicago), Martine Clozel, M.D. (Allschwil), and Hunter C. Gillies, M.D. (Foster City).

Fig. 2. The entrance of the Tsukuba University, Tokyo Campus, the venue of the Thirteenth International Conference on Endothelin. At Tsukuba University, the molecular structure of endothelin was identified in 1987 and published in the Spring of 1988 (Yanagisawa et al. 1988).

Fig. 3. Faculty and conference attendees of the Thirteenth International Conference on Endothelin gathered on the Kyouiku-no-mori Park (教育の森公園) near Tokyo Campus of the University of Tsukuba.
Photo courtesy of Suzete Sandin.

In the Honorary Chair Session, Paul M. Vanhoutte, M.D. Ph.D. (Hong Kong) presented a lecture entitled "End o' the Line Revisited" in which he gave an overview of endothelial regulation of vascular tone during the course of 25 years of endothelin research (De Mey and Vanhoutte, 2014-in this issue). The Special Guest Lecture was delivered by Jun Yamashita, M.D. Ph.D. (Kyoto), a close collaborator of Shinya Yamanaka, M.D. Ph.D. who received the 2012 Nobel Prize in Physiology or Medicine for his discoveries in stem cell research (Colman, 2013). Dr. Yamashita's lecture was entitled "Multiple and Integrative Approaches to Cardiovascular Diseases with Stem Cell Technology." With what has become a

Fig. 4. Jennifer Pollock, Ph.D, of the Georgia Regents University, Augusta, GA, speaking to the conference audience in the lecture hall of Tsukuba University, Tokyo Campus. In the foreground: session chairs Pedro d'Orléans Juste, Ph.D. (Sherbrooke) and Soichi Miwa, M.D. Ph.D. (Hokkaido).
Photo courtesy of Suzete Sandin.

Fig. 5. Atsushi Tanaka, M.D., Keio University, Tokyo during his lecture on cardiomyocytes that were derived from hypertrophic cardiomyopathy-induced pluripotent stem cells. Photo courtesy of Suzete Sandin.

tradition at the endothelin conferences, a lecture by Masashi Yanagisawa, M.D. Ph.D. (Tsukuba) concluded the conference summarizing the highlights of ET-13, and again addressing the next generation of endothelin researchers with a personal message (Barton and Pollock, 2012).

During the conference, a number of young investigators presented data from their research work at the scientific sessions as well as at the poster sessions, all of which were chaired by international experts from basic science and clinical medicine (Emoto et al., 2014c-in this issue) (Figs. 5, 6). All sessions took place at Tokyo Campus of Tsukuba University (Figs. 2, 4) and the academic venue was ideal for young researchers to present, share and discuss their data with senior investigators (Emoto et al., 2014c-in this issue). The Conference Chairs honored two young scientists with the ET-13 Best Presentation Awards (co-sponsored with Elsevier Publishers) for the best presentations of a talk or poster, respectively. The prize for best oral presentation went to Johannes P. Backs, M.D. (Germany), and David J. Durgan Ph.D (USA) received the prize for best poster presentation (Emoto et al., 2014c-in this issue). In addition to new basic research, numerous areas of interest for the potential clinical application of endothelin antagonists or endothelin-converting enzyme inhibitors were introduced, including not only renal and cardiovascular diseases but also cancer, inflammation, pain, diabetes and related diseases; studies also addressed diseases such as osteoarthritis, retinal disease and blindness, Alzheimer's disease, and many more (Abdelsaid et al., 2014-in this issue; Caprara et al., 2014-in this issue; Cianfrocca et al., 2014-in this issue; Finzi et al., 2014-in this issue; Freeman et al., 2014-in this issue; Fukumoto et al., 2014-in this issue; Shimojo et al., 2014-in this issue; Tanaka et al., 2014-in this issue).

At the conference dinner held at the Tokyo Dome Hotel on September 10, 2013 (Fig. 7), scientists from 25 different countries celebrated the anniversary of the discovery of endothelin (Emoto et al., 2014c-in this issue). As a special highlight, nine young investigators aged 25 or less in 2013 who represent the next generation of endothelin researchers, were invited to prepare prior to the conference to present a haiku (俳句), a traditional form of Japanese poetry consisting of no more than three short verses and 27 *on*, or Japanese phonetic units). The young investigators presented their endothelin-haikus at the conference dinner, both in their native language and in

Fig. 6. The Conference Chairs, Noriaki Emoto, M.D. Ph.D. and Takashi Miyauchi, M.D. Ph.D. (center) with the recipients of the ET-13 Young Investigator awards. Photo courtesy of Suzete Sandin.

Fig. 7. Conference attendees celebrating the 25th anniversary of the discovery of endothelin at the ET-13 conference dinner, held at the Tokyo Dome Hotel on September 10, 2013. Photo courtesy of Suzete Sandin.

an English translation (Emoto et al., 2014c-in this issue). These haikus have been published in another article in this issue (Emoto et al., 2014c-in this issue). On the last day of the ET-13, the Conference Chairs announced Professor Katsutoshi Goto, Ph.D. (Tsukuba) as the recipient of the Second Tomoh Masaki Award (Emoto et al., 2014a-in this issue).

The Thirteenth International Conference on Endothelin would not have been possible without the tremendous help and support of a large number individuals and organizations, including members of the ET-13 Local Organizing Committee, the ET-13 International Scientific Advisory Committee, the Endothelin International Advisory Board (ET-IAB), and our conference sponsors. We express our appreciation to Takashi Miyauchi, M.D. Ph.D. as ET-13 Co-Chair, and Tomoh Masaki, M.D. Ph.D, Katsutoshi Goto, PhD., and Paul M. Vanhoutte, M.D. Ph.D., as ET-13 Honorary Conference Chairs (Emoto, 2014-in this issue). We thank the ET-13 Secretary Generals, Satoshi Sakai, M.D. Ph.D., and Nicolas Vignon-Zellweger, Ph.D, for their invaluable help in organizing this conference. We are particularly grateful for all abstract reviewers and the chairs of the scientific sessions who were essential in ensuring a high scientific quality of the conference program.

As Conference Chairs, we particularly thank our official institutional sponsors, the American Physiology Society, the British Pharmacological Society, the Japanese Circulation Society, International Society of Nephrology, University of Tsukuba, Japan Society for the Promotion of Science (JSPS), the Uehara Foundation, and the Japanese Pharmacological Society. We also thank all industrial sponsors for providing unrestricted educational grants to support the conference. This financial support allowed us to give a record number of sixty-nine ET-13 Young Investigator Awards and grants to early career young scientists in recognition of the excellence of their research to be presented at the ET-13 conference (Fig. 8).

We are grateful to all members of ET-13 Conference Secretariat for an outstanding job with the organization of the meeting and proving incredible flexibility in the most difficult situations. We also thank Suzete Sandin (Sherbrooke) who again served as the official conference photographer and Angus Hubbard and Steve Sobal (London) for filming of ET-13. We thank the board of the University of Tsukuba, Tokyo Campus, who made it possible for us to have the meeting at the same University that was the birthplace of endothelin.

We thank all the people at Elsevier and Life Sciences, particularly Christine Kisthard and Ruthie Hewitt, who helped us with their professionalism, their publishing expertise, their help with the Open Access™ publication of the ET-13 conference abstracts (Emoto, 2013) and for their patience and tremendous support during the preparation of the Endothelin XIII proceedings (Emoto, 2014-in this issue). We also thank Anne Marie Pordon, the publisher of Life Sciences, for supporting and sponsoring the idea of the "ET-13 Best Presentation Awards". As with the previous meeting (von Brandenstein et al., 2012), the ET Best Presentation Award comes with an invitation for the awardee to contribute a review article on a subject of research to be published in Life Sciences (Lehmann et al., 2014-in this issue). Finally, we have to thank all speakers, presenters, session chairs, abstract reviewers, manuscript reviewers, and supporters for their contribution.

The Fourteenth International Conference on Endothelin (ET-14) will be held in Savannah, GA, USA from September 2–5, 2015 and chaired by Adviye Ergul, M.D. Ph.D., Anil Gulati, M.D. Ph.D., and David M. Pollock, Ph.D. (endothelins.com, 2015). We are convinced that at ET-14 we

Young Investigator Award

Shamima Akter	Japan	**Matthias R. Meyer**	USA
Oliver Baretella	Hong Kong	**Kazuhiko Nakayama**	Japan
Vicente Bermudez	Argentina	**Meghana M. Pandit**	USA
Joseph Cacioppo	USA	**Julia Straube**	Germany
Fernando P. Filgueira	Brazil	**Kazuko Tajiri**	Japan
Susi Heiden	Japan	**Hung Van Tran**	Japan
Martin Houde	Canada	**Nicolas Vignon-Zellweger**	Japan
Kelly A. Hyndman	USA	**Melanie von Brandenstein**	Germany
Subrina Jesmin	Japan	**Amanda K. Welch**	USA
Dimitrios Kapsokalyvas	The Netherlands	**Chunyi Wen**	Hong Kong
Olivia Lenoir	France	**Bambang Widyantoro**	Indonesia
Mary G. Leonard	USA	**Raphael Wurm**	Austria
Heike Loeser	Germany	**Tsunehisa Yamamoto**	Japan
Takeshi Machino	Japan	**Toru Yoshikawa**	Japan
Yuri C. Martins	USA		

Travel Grant Award

Dyah Wulan Anggrahini	Indonesia	**Gregory Star**	Canada
Nur Arfian	Indonesia	**Sarah L. Trinder**	UK
Jongki Cho	USA	**Jale Yuzugulen**	UK
Matthijs G. Compeer	The Netherlands	**Shinya Fukumoto**	Japan
Louisane Desbiens	Canada	**Majedul Islam**	Japan
Daniel Erces	Hungary	**Akemi Kakino**	Japan
Alessandro Finzi	Italy	**Most. Tanzila Khatun**	Japan
Brandi D. Freeman	USA	**Kento Kitada**	Japan
Samer-ul Haque	UK	**Hiroshi Kumagai**	Japan
J. Brett Heimlich	USA	**Toshinori Minamishima**	Japan
Fabian Heunisch	Germany	**Hironori Muraoka**	Japan
Danielle Kamato	Australia	**Mami Nishikawa**	Japan
Thomas M. Leurgans	Denmark	**Yoshie Nogami**	Japan
Varut Lohsiriwat	Thailand	**Takeshi Otsuki**	Japan
Rheure Lopes	Brazil	**Kaori Sato**	Japan
Andras T. Meszaros	Hungary	**Aiko Sonobe**	Japan
Rebecca C. Moorhouse	UK	**Koichiro Tanahashi**	Japan
Xeni Provatopoulou	Greece	**Saori Yamamoto**	Japan
Joshua S. Speed	USA	**Kanako Yokoi**	Japan

Fig. 8. Names and countries of origin of the recipients of the ET-13 Young Investigator Awards (YIAs and travel grants) who presented their research at the ET-13 meeting in Tokyo.

will see many new exciting presentations about the most recent in basic and clinical endothelin research. We sincerely wish the ET-14 Conference Chairs-Elect energy with the preparation of the meeting and much success. We are looking forward to seeing exciting new endothelin science to be presented at ET-14 in September 2015.

Appendix A. Supplementary data

Supplementary video to this article "Impressions from the Thirteenth International Conference on Endothelin, Tokyo, Japan, September 8-11, 2013" can be found online at http://dx.doi.org/10.1016/j.lfs.2014.09.020.

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